OREGON WILD

2 October 2018

TO: Hells Canyon NRA
C/O: Andrea Holmquest, acholmquist@fs.fed.us
CC: Shawn Mork, smork@fs.fed.us

Subject: Cold Elk Range Analysis — scoping comments

Dear Forest Service:

Please accept the following scoping comments from Oregon Wild concerning the Cold Elk Range Analysis, https://www.fs.usda.gov/project/?project=54613. Oregon Wild represents 20,000 members and supporters who share our mission to protect and restore Oregon's wildlands, wildlife, and water as an enduring legacy. Our goal is to protect areas that remain intact while striving to restore areas that have been degraded. This can be accomplished by moving over-represented ecosystem elements (such as logged and roaded areas) toward characteristics that are currently under-represented (such as roadless areas and complex old forest).

The Cold Elk Range Analysis Area includes three grazing allotments: Cold Spring (30,405 acres), Teepee Elk (7,600 acres), and Lost Cow (180 acres). These allotments encompass 38,800 acres of public land (ceded by the Nez Perce Tribe) located in the Wallowa Valley Ranger District and the Hells Canyon NRA. The purpose of this analysis (and decision) is to provide livestock grazing *where suitable* and consistent with multiple use goals and objectives set for the in the applicable LRMP and NRA Plan.

Potential issues identified by the Forest Service include: steelhead, weeds, and rare plants.

Additional issues that need to be included in the NEPA analysis include: grazing suitability, impacts to proposed Wilderness, cultural and ecological values, sensitive landscapes, conflicts between livestock and predators (e.g., wolf kill orders have been issued in this area).

Procedural

- The Forest Service must conduct an adequate NEPA analysis. We understand that reduced funding has led to limited resources and the USFS is seeking to find efficiencies. Those efficiencies must not come at the expense of adequate analysis of opportunities for all members of the public to get information and provide meaningful input improve grazing

plans. Listed fish and plants along with habitat for numerous other rare, sensitive, declining, or currently extirpated species have been harmed and will continue to be harmed (or recovery impaired) by grazing. The same is true of other ecological and cultural values. A reasonable range of alternatives must be considered. We believe NEPA is inherently flexible and that there are ways for the USFS to be efficient ***and*** conduct a robust analysis that meets the letter and spirit of the law. Cutting corners or holding some stakeholders at arm's length leads to unnecessary conflict, a further eroding of public trust, and inefficiencies in the long run. Please consider alternatives that significantly reduce grazing impacts on endangered species and roadless values. See attached map of unroaded areas.

- We look forward to providing more narrowly focused comments at later stages of the NEPA process as we get more information from the USFS and have a better understanding of what is being proposed. However, the impacts of livestock grazing on fish, wildlife (including wildlife displacement), riparian habitat, botanical, hydrological, water quality & quantity, fire regime, climate, human safety, recreation, soil, and other values are well documented. For that reason as well as to honor both the letter and spirit of NEPA and other critical environmental laws, we urge the USFS to consider an appropriately broad and diverse range of alternatives. Simply tinkering on the edges of the status quo for one alternative and then considering no grazing on another sets up a false choice between two extremes and unnecessarily pits public stakeholders against one another. It also fails to adequately consider trade-offs and reduces the likelihood of finding real solutions. Further, as we have seen in other grazing re-authorizations, not considering reducing grazing intensity (through the number of cows or amount of grazing time) does not allow sufficient flexibility to address concerns without simply moving impacts around the landscape.

- The Wallowa-Whitman National Forest has not yet met its obligation to identify lands suitable for livestock grazing as required by NFMA. This seems critical given that this area could better meet desired conditions and contribute much more to recovery of listed species if it were managed with a different set of priorities. Knowing that parts of the analysis area are not suitable for grazing, please conduct a suitability analysis and share suitability maps broken down by pasture (not just allotments) and include fencing, topography, and roads.

  AFSEE's 1995 Report on Grazing Suitability explains:

  > AFSEEE examined most of the existing forest plans in the Columbia River Basin and determined that the required analysis of grazing suitability has not been fulfilled. AFSEEE's investigation reveals a consistent pattern of problems: (1) failure to document standards or criteria used for determining grazing suitability; (2) failure to make suitability determinations based on "an analysis of the economic and environmental consequences and the alternative uses forgone;" and (3) failure to identify particular land areas suitable for livestock grazing. These findings increase the importance of determining suitability now to bring forest plans in the Columbia River Basin into compliance with the law.
  > ...
  > The regulation implementing NFMA's suitability requirement with respect to livestock grazing provides--

> In forest planning, the suitability and potential capability of National Forest System lands for producing forage for grazing animals and for providing habitat for management indicator species shall be determined as provided in paragraphs (a) and (b) of this section. Lands so identified shall be managed in accordance with direction established in forest plans.
>
> (a) Lands suitable for grazing and browsing shall be identified and their condition and trend shall be determined. . . .
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> . . . The present and potential supply of forage for livestock, wild and free-roaming horses and burros, and the capability of these lands to produce suitable food and cover for selected wildlife species shall be estimated. The use of forage by grazing and browsing animals will be estimated. Lands in less than satisfactory condition shall be identified and appropriate action planned for their restoration.
>
> (b) Alternative range management prescriptions shall consider grazing systems and the facilities necessary to implement them; land treatment and vegetation manipulation practices; and evaluation of pest problems; possible conflict or beneficial interactions among livestock, wild free-roaming horses and burros and wild animals populations, and methods of regulating these; direction for rehabilitation of ranges in unsatisfactory condition; and comparative cost efficiency of the prescriptions.

36 C.F.R. § 219.20

The regulations define suitability as:

> The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses forgone. A unit of land may be suitable for a variety of individual or combined management practices.

36 C.F.R. § 219.3. The regulations then define capability as:

> The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils, and geology, as well as the application of management practices such as silviculture or protection from fire, insects, and disease. Id.

While the above regulations impose a host of grazing related analyses and management actions, this paper focuses on three primary requirements: (1) that in forest planning the suitability of lands for grazing shall be determined based on economic and environmental considerations, (2) that lands suitable for grazing shall be identified, and (3) that the lands so identified shall be managed in accordance with forest plan direction.

PAST COMPLIANCE WITH FOREST PLANNING REQUIREMENTS

The NFMA planning regulations require that each forest plan identify lands suitable for grazing. AFSEEE has examined most of the existing eastside forest plans and determined that grazing suitability was not adequately addressed in any of the plans reviewed. AFSEEE's investigation reveals a consistent pattern of problems in the forest plans: (1) failure to document standards or criteria used for determining grazing suitability; (2) failure to make suitability determinations based on "an analysis of the economic and environmental consequences and the alternative uses forgone;" and (3) failure to identify particular land areas suitable for livestock grazing.

Instead of analyzing the "economic and environmental consequences of grazing and alternative uses forgone" as required by the regulations, the typical forest plan, if it addresses grazing suitability at all, narrows its suitability analysis to questions of forage production and steepness of slope. Instead of publishing a map that identifies lands suitable for grazing on a site specific basis, the typical forest plan describes suitability in generic terms such as absolute numbers of suitable acres or the proportion of the total area that is allotted for grazing.

For example, the forest plan for the Wallowa-Whitman National Forest addresses grazing suitability as follows--

> Of the 2.3 million acres of the Forest, approximately 1.3 million are classified as suitable for livestock grazing under controlled management conditions that will maintain or improve the range resource. . . . In addition, current management is not always adequate to provide for rehabilitation of existing problem areas or to consistently prevent the occurrence of new problems.

USDA, Forest Service, Wallowa-Whitman National Forest, LRMP, page 2-10. Although this discussion is more detailed than most of the eastside forest plans, it completely fails comply with the NFMA regulations. The plan does not identify which lands fall into the 1.3 million acres that are "classified as suitable" for grazing. In addition, the plan fails to disclose the criteria used to classify lands as suitable for grazing.

Finally, the Wallowa-Whitman Forest Plan failed to account for management constraints. If "current management is not always adequate to provide for rehabilitation of existing problem areas or to consistently prevent the occurrence of new problems," then the Wallowa-Whitman Forest erroneously identified as suitable for grazing areas that will be unacceptably degraded by livestock. The approach to grazing suitability used in the last round of forest planning clearly does not comply with the requirements of the regulations.

Heiken D., 1995. RIGHT PLACE -- WRONG ANIMAL: Determining Grazing Suitability Based on Desired Ecosystem Outcomes for the Interior Columbia River Basin. Association of Forest Service Employees for Environmental Ethics. May 1995. https://www.dropbox.com/s/ucw50hhs8xsiz2k/AFSEEE%20Grazing%20Suitability%20Report.doc?dl=0

Data Requests

- Please summarize and make available all monitoring data on these allotments including but not limited to botanical surveys, riparian surveys (including stream temperatures and bank undercut), upland surveys (including stubble height data and utilization data). Please include specific GPS locations, *who* collected the data, when the data was collected, and why those sites were chosen. Please share the data in table and map form. Please include any relevant field notes.

- We request specific GPS location data because the landscape of the Wallowa Whitman can be very diverse. Monitoring sites that may be separated by small distances or within the same pasture may be looking at very different things.

- Please disclose all grazing violations, situations of non-compliance, and warnings (written and verbal) that have occurred).

- Please provide stream surveys and when they occurred in table and map form including:
    - stream temperature data for the entire analysis area. Please include all data including graphs and how data changes over the season (not just 7-day averages). Please disclose the specific GPS locations.
    - lower-bank angle data from streams - especially from meadow streams - including summaries and raw data. Please share how this data demonstrates compliance or non-compliance with and/or a trend towards achieving (or at least not retarding) RMO's. Please disclose the specific GPS locations.

- Please assess and disclose the state of exclosures, fencing, water diversions (and other water enhancements), and other infrastructure as well as the required maintenance and maintenance costs.

- Please share high-resolution maps that include topography (slope angles), pasture boundaries, roads, seeps, springs, meadows. streams, monitoring locations, pasture divisions, fences, water sources, areas that receive high-use by livestock, and other important features.

- Please disclose other activities allowed by or conducted by the USFS on behalf of permittees within these permit areas (allotments) including but not limited to logging, road maintenance, tree removal, etc.

- Where data is lacking - and to inform alternatives - we encourage the Forest Service to conduct botanical monitoring to identify plants that may need protection as well as to locate new species (native and invasive).

- We encourage the USFS to conduct a thorough internal economic analysis that includes costs to taxpayers for fencing, monitoring, enforcement, road maintenance, etc. as well as grazing fees that have been received. Information on the non-consumptive economic value of these lands (e.g., for uses other than livestock) should also be developed and considered.

- Please analyze secondary impacts that occur due to grazing in this area including off-road ATV use.

- Please disclose the location and state of all aspen and ensure protection where it occurs. Explain how fences and other mitigation will be maintained over time. If the USFS can't assure the public that values such as water, aspen, and fish/wildlife habitat can be protected over time, the public resource should not suffer. Alternatives must be developed that meaningfully reduce - as well as eliminate - the deleterious impacts of cows to those and other public values.

Other Concerns that Inform the Scope of the Analysis

- As we continue to monitor grazing in the Wallowa Whitman and other National Forests, we have seen that there are places on allotments where livestock use is minimal. There are other places where it's concentrated and those tend to be on the most sensitive parts of the landscape that are also of critical importance to native wildlife. That includes, but is not limited to meadows, seeps, springs, stringers, and streams. Please identify that areas, disclose the disproportionate past and ongoing impacts to these areas, (especially as they relate to key issues such as riparian integrity and listed species), and develop alternatives to minimize and mitigate impacts to these areas.

- In this project area, we are also observing ungulate displacement and overgrazing affecting late-season forage which is a limiting factor for native ungulates.

- It's important to see if changes in management are effective in improving conditions. In developing monitoring plans, please select (and explain the selection criteria) for sites where you expect there to be impact that can actually be measured.

- Please share existing general rotation dates of each pasture and proposed plans based on developed alternatives.

- The USFS is aggressively identifying, killing, and removing hazard and danger trees ostensibly to protect the public on this National Forest. Cows on roads, defensive cows, and bulls can be dangers to humans and their pets. Please address recreation conflicts and human safety concerns in this analysis.

- Please create an adequate and implementable monitoring program that includes transparent and timely sharing of information with the public.
    - Please explain your selection of monitoring sites. They should be where it can be reasonably expected that measurable impacts will be seen.

    - Monitoring for impacts on listed species such as Spaulding Catchfly and anadromous fish is important but insufficient to understand grazing's impacts on the broader landscape.

- Please create clear plans for what steps will be taken when grazing plans are violated and/or when non-compliance occurs. Please create clear plans for what measures may/will be taken if non-compliance becomes chronic.

- Kill orders have been issued by the Oregon Department of Fish and Wildlife for wolves in response to predation on livestock in this area. Many other native carnivores (and other wildlife) are killed or prevented from inhabiting this landscape as a result of livestock operations and in the name of protecting livestock. If the permitted presence of livestock is leading to killing wolves and other native wildlife, or preventing their ability to inhabit the landscape, then the agency is failing to maintain habitat for those species. We urge the USFS to give more thought (not only to grazing suitability) but also mitigation measures including alternative grazing patterns that might reduce conflict. Removing livestock from areas where conflicts are likely should be required, but at a minimum, it must be an option that is no less feasible than killing native wildlife when conflict occurs. Having recently discussed these matters with Forest Service staff from around the region, we are able to share some detailed recommendations:
    - Livestock should not be released within one mile of known den and rendezvous sites. Presence should be assumed at recently used (within the last 5-years) sites unless proactive monitoring by agency staff at the appropriate time indicates absence.
    - Prohibit the turnout of sick and injured livestock to reduce the risk of attracting or being preyed upon by wolves and other native carnivores. Require the removal of sick, injured, or otherwise vulnerable livestock.
    - Require prompt remove and dispose of livestock carcasses.
    - Prohibit salt and other livestock attractants within one mile of known wolf dens, rendezvous sites, and regular travel routes.
    - Prohibit wolf attractants in pastures occupied by wolves.
    - Ensure USFS personnel regularly consult with wildlife agencies to help reduce conflict with wolves. That includes requiring compliance with state requirements for non-lethal conflict deterrence.
    - Prohibit turnout of pregnant cows and calves under 200 pounds.
    - Prohibit USFS staff from sharing specific wolf location information with permittees.

Livestock Grazing - General Recommendations for Improved Management

- The NEPA analysis should provide site-specific analysis of known problem areas in terms of livestock management, and other areas have high ecological value and potential adverse impact from livestock, such as wet meadows, floodplains, and key stream reaches.

- Bunch grasses evolved with different kinds of herbivory and are not suitable for livestock grazing. Grazing should be eliminated or grazing seasons should be very short in order to prevent irreversible damage to drought-stressed plants and it will significantly impact the ability of plants to set seeds.

- Please provide for long-term viability of native plants by allowing plants to fulfill their full lifecycle including flowering, seed set, and sexual or asexual reproduction without significant interference by livestock grazing.
- "Improving livestock distribution" is not necessarily a good thing because it spreads the effects of livestock to areas that are currently spared the adverse effects of livestock grazing. Improved distribution homogenizes grazing effects and expands the ecological stress caused by livestock grazing. Maybe it would be better to just limit livestock numbers.
- Fencing has ecological consequences that should be considered and minimized or avoided when possible. Fences can kill or harm birds and other wildlife. It many cases it better to just remove livestock from the area. Floyd Reed, retired FS Range staff, says that "fencing is a sign of management failure." Fencing fragments the forest landscape adversely impacting landscape connectivity and is harmful to wildlife. Fencing is very expensive and difficult to impossible to maintain especially in forested terrain. Fencing is designed to facilitate more intensive commercial livestock management which surveys have shown is not among the values the wider American public holds for public lands. Fencing is for the convenience of a small number of private commercial livestock operators privileged to hold public land grazing privileges at little cost to themselves, but huge costs to other values. Fencing requires gates and cattleguards are often difficult to negotiate by both wildlife and the public. A study released in October 2009 shows that during a seven month period the Wyoming Game and Fish Department documented 146 instances of finding sage-grouse feathers or carcasses on or near a 4.7-mile section of barbed-wire fence. http://world-wire.com/news/0912160001.html. Also, the Colorado Division of Wildlife has prepared a report on the impacts of fences and how to mitigate them. Hanophy, W. 2009. Fencing with Wildlife in Mind. Colorado Division of Wildlife, Denver, CO. 36 pp http://web.archive.org/web/20110101134309/http://wildlife.state.co.us/NR/rdonlyres/20D5C775-55DD-4C6D-A5CF-C9B83FCEA69E/0/DOWFencingWithWildlifeInMind.pdf. This report asks the important question, "Do you really need a fence?" because "… the best fence for wildlife is no fence at all." Remember the option of removing livestock instead of building fences.

  See also, Bryan S. Stevens 2011. IMPACTS OF FENCES ON GREATER SAGE-GROUSE IN IDAHO: COLLISION, MITIGATION, AND SPATIAL ECOLOGY. University of Idaho Masters Thesis. May 2011. ("Increasing terrain ruggedness reduced probability of collision presence, whereas increasing fence length per km2 increased probability of collision. Broad-scale modeling also suggested collision counts per km2 were influenced by distance to nearest active sage-grouse lek, where increasing distance reduced expected collision counts. These data suggest 2 km mitigation buffers around leks in high risk areas may be necessary… ")
- Consider and avoid impacts to wildlife, including big game, ground nesting birds, uncommon plants, pollinators, and aquatic species. Ensure that livestock grazing is not impairing the maintenance of viable populations including well-distributed plant and animal communities with healthy age-class distributions. Focus on species that are

sensitive to livestock grazing such as aspen and other highly palatable plants, and animals that live near the ground such as ground-nesting birds, amphibians, mollusks, etc... Grazing is known to have significant adverse impacts on ground nesting birds. Glenn E. Walsberg 2005. Cattle Grazing in a National Forest Greatly Reduces Nesting Success in a Ground-nesting Sparrow. The Condor Volume 107, No. 3. August, 2005. See also, Sara Jane Wagoner 2011. The Effects Of Spring Cattle Grazing On The Nutritional Ecology Of Mule Deer (*Odocoileus Hemionus*) In Eastern Washington. Masters Thesis. Washington State University. May 2011. ("Our results suggest that moderate spring cattle grazing in dry-stony ecological sites reduced the amount of digestible nutrients available to mule deer during the year of grazing.")

- Consider and minimize adverse impacts of livestock grazing on pollinators. On June 20, 2014, the White House released a "Presidential Memorandum—Creating a Federal Strategy To Promote the Health of Honey Bees and Other Pollinators." https://www.fs.fed.us/wildflowers/pollinators/documents/PresMemoJune2014/PresidentialMemo-PromoteHealthPollinators.pdf, which states "Over the past few decades, there has been a significant loss of pollinators, including honey bees, native bees, birds, bats, and butterflies, from the environment. The problem is serious and requires immediate attention to ensure the sustainability of our food production systems, avoid additional economic impact on the agricultural sector, and protect the health of the environment. … Given the breadth, severity, and persistence of pollinator losses, it is critical to expand Federal efforts and take new steps to reverse pollinator losses and help restore populations to healthy levels." Further, Section 3 calls for "Increasing and Improving Pollinator Habitat … (e) The Departments of Agriculture and the Interior shall… develop best management practices for executive departments and agencies to enhance pollinator habitat on Federal lands." A statement released by Bob Periciasepe, Deputy Administrator, Environmental Protection Agency, and Krysta Harden, Deputy Secretary, U.S. Department of Agriculture (USDA), emphasized: "The memorandum also requires federal agencies to lead by example, taking specific measures to substantially expand pollinator habitat on federal lands and to build on feder-al efforts with public-private partnerships." https://www.fs.fed.us/wildflowers/pollinators/BMPs/. With this direction, U.S. Department of Agriculture and U.S. Department of Interior, issue this timely and critically needed document, Pollinator-Friendly Best Management Practices for Federal Lands, May 11, 2015. https://www.fs.fed.us/wildflowers/pollinators/BMPs/documents/PollinatorFriendlyBMPsFederalLands05152015.pdf. ("Objective: To reduce the impact to pollinators from livestock grazing. Explanation: Livestock grazing alters the structure, diversity, and growth pattern of vegetation, which affects the associated insect community. Grazing during a time when flowers are already scarce may result in insufficient forage for pollinators. Grazing when butterfly larvae are active on host plants can result in larval mortality and high intensity grazing can cause local loss of forb abundance and diversity. Implementation: The following actions should be considered in rangelands when livestock grazing is present: • Determine which types of pollinators and which pollinator habitat elements are affected by grazing livestock. • Assess if grazing is compatible with the specific needs of target pollinator species on site, including targeted butterfly species. • Prevent trampling ground-nesting sites by implementing practices to minimize hoof action of grazing animals, which causes soil compaction or erosion in pollinator nesting

and shelter patches. • Minimize livestock concentrations in one area by rotating livestock grazing timing and location to help maintain open, herbaceous plant communities that are capable of supporting a wide diversity of butterflies and other pollinators. • Protect the current season's growth in grazed areas by striving to retain at least 50% of the annual vegetative growth on all plants. • Enhance the growth of forbs to ensure their ability to reproduce and to provide nectar and pollen throughout the growing season by setting grazing levels to allow forbs to flower and set seed. • Leave nearby ungrazed areas to provide reserves for pollinator populations. • Prevent grazing during periods when flowers are already scarce (e.g., midsummer) to maintain forage for pollinators, especially for bumble bee species. • In important butterfly areas, avoid grazing when butterfly eggs, larvae, and in some cases pupae are on host plants. • Consider the needs of pollinators when placing range improvements and structures on the landscape. • Ensure that fencing is adequate and well maintained. • Include protection of pollinator species in grazing management plans.")

- Manage livestock to avoid conflicts with predators. Special attention should be given to facilitate recovery of ecologically functional populations of threatened gray wolves. Some allotments may need to be closed to give predator populations an opportunity to expand thrive while minimizing risks of human conflicts. Where grazing will continue in areas frequented by predators, permitees should be required to take all necessary steps to avoid conflicts and use non-lethal methods to prevent and limit depredation of livestock. See ODFW Non-Lethal Measures to Minimize Wolf-Livestock Conflict, http://dfw.state.or.us/Wolves/docs/ODFW_Non-lethal_Measures_130719.pdf, http://dfw.state.or.us/Wolves/non-lethal_methods.asp

- Livestock are naturally prone to cause adverse impacts because they spend a disproportionate amount of time in sensitive areas such as meadows, wetlands, and riparian areas. Livestock don't move when we want them to. It takes significant resources to ensure that range conditions are monitored and livestock are moved. If the agency and the permittee fail to commit necessary resources for range monitoring and moving animals, livestock grazing should be terminated. UNAUTHORIZED GRAZING: Actions Needed to Improve Tracking and Deterrence Efforts. GAO-16-559: Published: Jul 7, 2016. http://www.gao.gov/assets/680/678292.pdf

- Protect springs, streams, and wetlands from the impacts of livestock (and restoration of areas already degraded) are of utmost important because they represent a small subset of the landscape, they provide disproportionately important ecosystem services, and they suffer disproportionate adverse impact from livestock grazing. The adverse effects of livestock on water quality are well documented. Lindsey Myers, Brenda Whited. 2012. The Impact of Cattle Grazing in High Elevation Sierra Nevada Mountain Meadows over Widely Variable Annual Climatic Conditions. Journal of Environmental Protection, 2012, 3, 823-837. doi:10.4236/jep.2012.328097. http://www.scirp.org/journal/PaperInformation.aspx?paperID=21784.

- Take to heart current policy requiring agencies to avoid actions that would slow attainment of aquatic objectives (e.g. "do not retard" language in PACIFISH/INFISH and NWFP). Continued livestock grazing with only minor modifications is unlikely to avoid retarding recovery. Riparian vegetation that is ungrazed will provide better shade, better

bank stability, better nutrient cycling. Riparian areas that are grazed will have more erosion, less bank stability, less shade, less tightly coupled nutrient cycles, lower water quality, more soil compaction and faster run-off. "[N]atural restorative processes should be used wherever possible; in fact, natural processes may be sufficient once the degrading influences have been removed. Because the process of restoration is progressive, the criteria of success are not easy to define. The most important point is that ecosystem development should be on an unrestricted upward path." A.D. Bradshaw 1996. Underlying principles of restoration.. Can. J. Fish. Aquat. Sci. 53(Suppl. 1): 3–9 (1996). http://www.globalrestorationnetwork.org/uploads/files/LiteratureAttachments/353_underlying-principles-of-restoration.pdf. Other important public policy objectives near streams include protection of beneficial uses of water, conserving ESA listed fish & wildlife, avoiding future listings by maintaining viable populations of native species, and meeting treaty obligations related to fish & wildlife. In most cases this will require excluding livestock from sensitive meadows and streamside areas. Livestock conflicts with water quality goals are highlighted by recent research showing that E. coli bacteria from livestock can survive in stream sediments for months. Anne Perry 2011. E. coli: Alive and Well, Probably in a Streambed Near You. Agricultural Research l July 2011. http://www.ars.usda.gov/is/AR/archive/jul11/Ecoli0711.pdf.

- The agency has not prepared a legally adequate grazing suitability analysis based on economic and environmental considerations as required by NFMA. Heiken D., 1995. RIGHT PLACE -- WRONG ANIMAL: Determining Grazing Suitability Based on Desired Ecosystem Outcomes for the Interior Columbia River Basin. Association of Forest Service Employees for Environmental Ethics. May 1995. https://www.dropbox.com/s/ucw50hhs8xsiz2k/AFSEEE%20Grazing%20Suitability%20Report.doc?dl=0

- The ecosystem will store more carbon and help mitigate climate change if they remain ungrazed. The agency needs to help mitigate climate change by managing all living systems to capture and storage optimal levels of carbon. Livestock grazing reduces carbon storage in vegetation and soil at an ecosystem scale and grazing must be reduced to help mitigate climate change.

- Climate change is a new and added stress on native ecosystems. Climate change is expected to increase winter storms, summer droughts, reduce snowpack and summer streamflows, and cause earlier spring snowmelt and run-off. This adds stress to plants, animals, and streams that are also stressed by grazing. To avoid cumulative impacts from the combination of climate stress and anthropogenic stresses such as grazing, the agency needs to reduce anthropogenic stress from livestock grazing. Here are a few concrete examples. First, livestock trample and destabilize streambanks and expose streambanks to erosion. Such streambanks are vulnerable to erosion during peak flows. Climate change is expected to bring bigger precipitation events which will increase the erosive power of peak flows resulting in adverse cumulative interactions between climate change and grazing. Second, plants are stressed by summer dry periods which limits their ability to set seed, set buds, and store nutrients in woody parts and roots. These life functions are directly related to their survival. Climate change is expected increase the intensity and duration of summer droughts resulting in another adverse cumulative interaction between grazing and climate change. In order to help ecosystems cope with climate stress, the

agency should reduce or eliminate anthropogenic stresses such as livestock grazing. In the absence of livestock grazing streambanks will be better protected by plant roots and plants will be able to store more energy reserves which will help them be more resistant and resilient in the face of climate change.

- We strongly encourage the agency to make contingency plans that require the removal of livestock during droughts, and after droughts the agency should provide for long periods of rest and recovery before livestock are allowed to return so that plants can rebuild soil cover, biomass, and energy stores both above and below ground.

- Consider and avoid the effects of livestock grazing on the fire regime. Livestock grazing shifts the plant community composition from palatable grasses and forbs toward unpalatable conifers. This is contrary to current policy goals related to forest which urge us to avoid creating more ladder fuels. Livestock decrease the abundance of fine fuels which are necessary to carry periodic, low intensity surface fires. This reduces the frequency of fires, but increases their severity. See Kirsten Stade, MS, and Mark Salvo, JD. 2009. Ponderosa Pine in Peril: Assessing Public Lands Livestock Grazing in Ponderosa Pine Forests. Wild Earth Guardians. http://www.wildearthguardians.org/Portals/0/support_docs/report-ponderosa-pine-08-09.pdf; Belsky, A.J., Blumenthal, D.M., "Effects of Livestock Grazing on Stand Dynamics and Soils in Upland Forest of the Interior West," Conservation Biology, 11(2), April 1997. http://web.archive.org/web/20030409094020/http://www.onda.org/library/papers/standdynamics.pdf. See also Wuerthner, George. Livestock Grazing and Fire. January, 2003. http://web.archive.org/web/20040107135236/http://www.onda.org/library/papers/Livestock_Grazing_and_Fire.pdf; and Michael H. Madany, and Niel E. West. Livestock Grazing-Fire Regime Interactions within Montane Forests of Zion National Park, Utah. Ecology: Vol. 64, No. 4, pp. 661-667. Comparing grazed and ungrazed areas of Zion National Park this study found "… the increased understory density of plateau stands should not be attributed primarily to cessation of fires. Instead, heavy grazing by livestock and associated reduction of the herbaceous groundlayer promoted the establishment of less palatable tree and shrub seedlings…"

- The agency should protect and restore biotic soil crusts that help prevent erosion, fix nitrogen, cycle nutrients, and increase site productivity. Livestock grazing conflicts with the maintenance and recovery of biotic soil crusts. "Comparison of grazed and long-ungrazed sites revealed lower cover of biotic crusts, nitrogen-fixing lichens, crust-dominated soil surface roughness, and lower species richness in the grazed transects. There was more bare ground in the grazed transects…" Jeanne M. Ponzetti and Bruce P. McCune. 2001. Biotic Soil Crusts of Oregon's Shrub Steppe: Community Composition in Relation to Soil Chemistry, Climate, and Livestock Activity. The Bryologist 104(2):212-225. 2001.

- Grazing spreads weeds that alter vegetation structure, habitat, hydrology, and fire regimes. Weeds are a slow motion explosion that are adversely affecting native plant communities and entire ecosystems. By reducing the vigor of native plants, reducing soil cover, and exposing mineral soil, livestock grazing has a strong tendency to spread invasive weeds and exacerbate this problem. The agency should limit or exclude

livestock in order to help prevent the spread of weeds. Michael D. Reisner, James B. Grace, David A. Pyke and Paul S. Doesche 2013. Conditions favouring *Bromus tectorum* dominance of endangered sagebrush steppe ecosystems. Journal of Applied Ecology 2013 doi: 10.1111/1365-2664.12097. http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/38539/jpe_12097_Rev_EV.pdf ("Evidence suggests abundant bunchgrasses limit invasions by limiting the size and connectivity of gaps between vegetation, and [biological soil crusts] appear to limit invasions within gaps. Results also suggest that cattle grazing reduces invasion resistance by decreasing bunchgrass abundance, shifting bunchgrass composition, and thereby increasing connectivity of gaps between perennial plants while trampling further reduces resistance by reducing [biological soil crusts]. … Grazing exacerbates *Bromus tectorum* dominance in one of North America's most endangered ecosystems by adversely impacting key mechanisms mediating resistance to invasion. If the goal is to conserve and restore resistance of these systems, managers should consider maintaining or restoring: (i) high bunchgrass cover and structure characterized by spatially dispersed bunchgrasses and small gaps between them; (ii) a diverse assemblage of bunchgrass species to maximize competitive interactions with *B. tectorum* in time and space; and (iii) biological soil crusts to limit B. tectorum establishment. Passive restoration by reducing cumulative cattle grazing may be one of the most effective means of achieving these three goals.")

- Do not allow livestock grazing in existing ecosystems that are healthy and largely ungrazed. Let's not extend the harm to grazing to ecosystems that have been spared up to now. Similarly, please take steps to permanently terminate grazing authorizations in existing vacant or inactive allotments.
- The NEPA analysis for the applicable RMP is no longer current and adequate to support this proposed grazing decision. The agency cannot tier to that document because things have changed significantly, such as climate change and forest health concerns which are now paramount and were not addressed in that plan.
- Please mitigate all the significant ecological impacts of livestock grazing described in Fleischner, T.L. 2010. Livestock grazing and wildlife conservation in the American West: historical, policy, and conservation biology perspectives. Pages 235-265 in J. DuToit, R. Kock, and J. Deutsch, eds. Wild Rangelands: Conserving Wildlife While Maintaining Livestock in Semi-Arid Ecosystems. Zoological Society of London/ Blackwell Publishing Ltd., Oxford, UK. and Fleischner, T. 1994. Ecological Costs of Livestock Grazing in Western North America. Conservation Biology. Volume 8 Issue 3, Pages 629 – 644. http://www.rmrs.nau.edu/awa/ripthreatbib/fleishner_ecocosts.pdf.

- The agency should not misunderstand their responsibilities under the multiple-use laws. The agency is not required to allow livestock grazing everywhere, nor everywhere they have historically or currently allowed grazing. The agency's highest priority is to meet the requirements of substantive requirements of the Clean Water Act and Endangered Species Act even if it means curtailing grazing. The agency should strongly weigh the moral imperative of mitigating climate change by storing more carbon in ungrazed ecosystems. People who choose to raise cattle should bear the full costs of their business operation. Grazing should occur primarily on private lands where the costs are

internalized, rather than on public lands where the public is forced to bear the ecological costs and someone else gets to pocket the profits.

- Portions of these grazing allotments may occur in inventoried roadless area or unroaded areas larger than 1000 acres. Such areas are rare on the landscape and contribute disproportionately to ecological values and ecosystem services. Enhanced efforts toward conservation of ecological values are appropriate in such areas.
- Questions for the NEPA analysis: (i) How much has the agency spent in this permit area in the last ten years? Specifically, how much on fencing? How much of that expenditure was on materials and how much was on labor? What contributions were made by the permittees? (ii) How many of the boundaries are soft versus fenced? (iii) As Oregon struggles with water quality, quantity, and broken systems, what has the Forest Service done and what will they do to protect seeps, springs, water retention, and maintaining and restoring the water table in this permit area?
- George Wuerthner describes a variety of adverse effects from livestock grazing on public lands. The NEPA analysis should address each of these and propose alternative ways to avoid, minimize, and mitigate adverse effects.

    1. Dewatering of streams to the detriment of aquatic ecosystems.

    2. Conversion of native riparian habitat and sage brush steppe to hay pastures of exotic grasses.

    3. Trampling of biological crusts and contribution to soil erosion.

    4. Trampling of biocrusts which facilitate cheatgrass invasion.

    5. Soil compaction which decreases water infiltration.

    6. The trampling of riparian areas and springs reduces it's ability to soak up water and store for late season flows. It also destroys habitat for native mollucks.

    7. Water troughs are breeding grounds for mosquitoes that carry west nile virus (and harm sage grouse).

    8. Fences block migration and are a major source of mortality for sage grouse.

    9. We kill all kill all kinds of predators and other wildlife (like prairie dogs) as pests and "varmints".

    10. The eating of riparian vegetation eliminates hiding cover and habitat for many species from songbirds to sage grouse chicks.

    11. Forage competition. On many public lands, the vast majority of forage is allotted to domestic livestock. Many wet meadows, etc. are grazed to golf course height to the detriment of native wildlife.

    12. Disease transfer such as occurs with domestic sheep and wild bighorns.

13. Weed invasion–grazing of native perennials and trampling and disturbance of soils favors weedy invasions.

14. Even where grasses are meeting "objectives" like 4 inch stubble height that is not enough to hide ground nesting birds. For instance, grouse require at least 10 inches of stubble height which you seldom see where there is significant grazing.

15. Effects on fire regimes. The invasion of cheatgrass, created by livestock disturbance, is a major factor in the burnout of sage brush habitat. Similarly, grazing can enhance conifer establishment in the ponderosa zone, including stand densities, again affecting fire regimes.

16, Cows are a major source of methane and thus GHG emissions contributing to global warming. Worse than all the transportation put together.

17. Most of the dams built-in the West are for water storage to provide for irrigation. These dams change the water characteristics of rivers and block migration (think of salmon). While you might say a few situations where dams have created trout habitat below them as "good", this doesn't account for the numerous losses imposed by dams.

18. Grazing favors invasives and exotics over native plants. Grazing has dramatically altered many native plant communities.

GEORGE WUERTHNER, Critique of Montana Outdoors proposed "Green" Grazing article. The Wildlife News. AUGUST 14, 2017 http://www.thewildlifenews.com/2017/08/14/critique-of-montana-outdoors-proposed-green-grazing-article/

- Consider the grazing standards in Appendix 2 of AFSEEE's 1995 Grazing Suitability Report. We consider these to be minimum standards to meet the agency's legal requirements under NFMA, ESA, MBTA, NEPA, etc.

APPENDIX TWO

DETERMINING GRAZING SUITABILITY BASED ON DESIRED ECOSYSTEM OUTCOMES

AFSEEE proposes that the Interior Columbia Basin planning team fulfill the grazing suitability requirement as follows:

(1) Define "Desired Ecosystem Outcomes" and "Ecosystem Management Standards" for Columbia Basin ecosystems affected by livestock grazing;

(2) Determine grazing suitability for particular land areas based on whether livestock grazing would prevent or retard the attainment desired ecosystem outcomes or violate ecosystem management standards;

(3) Manage livestock grazing on suitable lands consistent with management standards to rapidly attain desired outcomes for Columbia Basin ecosystems; and

(4) Monitor to assure compliance with Ecosystem Management Standards and achievement of Desired Ecosystem Outcomes.

In an effort to stimulate open dialogue about appropriate definitions of Desired Ecosystem Outcomes, Ecosystem Management Standards, and standards for determining grazing suitability, AFSEEE proposes the following language be included in the Interior Columbia River Basin Record(s) of Decision:56

1. Desired Ecosystem Outcomes.

Upland, riparian, and aquatic ecosystems on National Forest System lands in the Interior Columbia Basin shall be managed to achieve ecosystem health and integrity. Ecosystem health and integrity will be indicated by the presence of ecosystem components, structures, processes, and functions described below. Ecosystem health and integrity will be indicated when the described characteristics attain wide distribution and site-potential.57 These ecosystem characteristics will be heterogenous, dynamic, and resilient. A healthy and integral ecosystem will not deviate greatly, over long periods of time or over large spatial areas, from the mean of the long-term range of natural variability.

Achievement of this desired outcome will include rapid attainment, and ongoing maintenance of at least the following indicators of ecosystem health and integrity:58

Soil

a. Fully functioning soil, including intact O-horizons and A-horizons, well-developed microbiotic components, and high capacity for water infiltration and water retention;

b. Nutrient cycling leading to stored supplies of carbon, nitrogen and other nutrients adequate for productive, fertile soils;

c. Plant litter accumulation adequate to help protect soil, retain moisture, provide habitat complexity, provide safe sites for germination of indigenous plants, and help carry low-intensity ground fire;

Vegetation

d. Plant distribution, age-class diversity, and species diversity are adequate for perpetuating healthy and diverse indigenous plant communities;

e. Complete vegetative and reproductive life cycles for indigenous plant species, including viable rooting throughout the available soil profile, normal vegetative growth forms, and maximum seed production;

f. Adequate germination micro-sites (safe sites) available for regeneration of indigenous plant species;

g. Photosynthetic activity occurs throughout the period suitable for growth of indigenous plants;

h. Undesirable influences from non-indigenous plants are prevented and eliminated;

i. "Park-like" forest stands that are resilient to disturbances such as fire, drought, insects, and disease are maintained where appropriate via maintenance of herbaceous plants and litter adequate to carry low-intensity fire along the ground and compete with and prevent excessive establishment of woody species.

Wildlife

j. Terrestrial and aquatic micro- and macro-invertebrates are present in adequate numbers and diversity to break down detritus and provide food for viable populations of indigenous fish, birds, reptiles, amphibians, mammals, and other wildlife;

k. Fully functioning upland, riparian, and aquatic habitats in the proper ratio and configuration to maintain viable populations of all indigenous species;

l. Minimum human intervention in the dynamic relationship between populations of predators and prey;

Water/Hydrology

m. Indigenous riparian vegetation, both woody and herbaceous, that contributes to bank stability, sediment trapping, shade, and habitat for diverse and well-distributed populations of riparian-associated indigenous species, including invertebrates and viable populations of vertebrates;

n. Optimum water quality for all beneficial uses, including domestic and municipal water supply, recreation, and the maintenance of well-distributed, viable populations of indigenous aquatic and other species. This subsumes water quality that is legally compliant as to temperature, sediment/turbidity, coliform bacteria, pH, dissolved oxygen, phosphates, nitrates, sulfates, and specific conductance;

o. Beneficial conditions of water flow, including moderated peak flows and extended late season flows; p. Cumulative impacts from livestock and existing populations (or planned reintroductions) of beaver will not adversely affect woody riparian vegetation and normal fluvial processes.

q. Stream habitat features indicating fully-functioning fluvial systems, including: stable undercut banks, pool frequency, channel type, width-to-depth ratio, substrate particle size and distribution, bed load transport, migrating stream channels, and energy dissipation characteristics;

r. Restored riparian/wetland functions, including timing and variability of water table elevation, groundwater recharge, and the ability to route flood waters;

2. Determining Grazing Suitability.

a. National Forest System lands may be designated suitable for livestock grazing only where the applicable forest plan makes a documented affirmative finding that maintenance of livestock numbers necessary to support a viable livestock operation59 will not prevent or retard attainment60 of all Desired Ecosystem Outcomes, listed under 1 above, nor lead to any violation of Ecosystem Management Standards, listed under 3 below.

b. In each area considered for possible livestock grazing, the resources most sensitive to degradation by livestock must be given special consideration in the suitability determination.

c. To support a grazing suitability determination the deciding officer must make a finding that livestock grazing in areas to be designated as suitable for grazing is consistent with the principle of multiple-use. To wit--

i. Management of all the various renewable resources of the national forest, including but not limited to livestock grazing, recreation, fish & wildlife habitat, water resources, and timber, are utilized in the combination that best meet the needs of the American people; and

ii. Upon consideration of all the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, livestock grazing is harmonious with other uses, and will not impair the productivity of the land for other uses.

d. The standards of this part apply equally to areas where grazing occurred in the past, areas where grazing is currently being permitted, and areas where grazing is being newly proposed.

e. Before the deciding officer may rely upon the effectiveness of existing or planned livestock management developments (such as fences and alternative water sources) to support a grazing suitability determination, the deciding officer must first find:

i. That the direct, indirect, and cumulative impacts of existing, planned, and necessary additional developments will not violate Ecosystem Management Standards, nor prevent or retard the attainment of Desired Ecosystem Outcomes or the restoration of past resource damage from any cause;

ii. That all structural developments and administrative efforts necessary to ensure attainment of Desired Ecosystem Outcomes and prevent violations of Ecosystem Management Standards will be diligently maintained for the duration of the grazing permit, and the risk that the structural developments and administrative efforts will be ineffective is insubstantial.

f. Where lands that are otherwise suitable for grazing are mingled with unsuitable lands in such a way that livestock use of the unsuitable lands is reasonably foreseeable, the whole area including the suitable lands shall be designated unsuitable.61

g. Grazing suitability must be considered in light of the capability of land areas to provide habitat for Management Indicator Species,62 the requirement to provide habitat for viable populations of all native and desired non-native vertebrate species,63 and the obligation to provide habitat contributing to the recovery of species listed under the Endangered Species Act.64

i. Indicator species must be selected based on their sensitivity to livestock impacts.

ii. In determining grazing suitability, population viability analyses should be conducted on populations of special status species most likely to be adversely affected by livestock grazing.

h. Lands harboring significant cultural resources that are likely to be damaged or destroyed by livestock shall be designated unsuitable for livestock grazing.

3. Ecosystem Management Standards

General

a. Authorized officers shall authorize grazing only on lands determined suitable for livestock grazing in the applicable forest plan. Livestock shall not be permitted to graze on National Forest System lands unless such lands are specifically designated suitable for livestock grazing in the applicable forest plan. Forest Service personnel shall take immediate and aggressive action to prevent livestock from trespassing on

unsuitable lands and shall enforce all applicable rules against unauthorized use of public lands by domestic livestock.

b. Adjust grazing to eliminate impacts that retard or prevent the attainment of Desired Ecosystem Outcomes listed under 1 above, or cause a violation of any applicable law, regulation, rule, or management standard. Where adjustments are not effective, eliminate livestock.

c. Where monitoring or other evidence shows that lands are not suitable for grazing, livestock shall be prohibited from grazing such lands whether or not such lands are determined in the applicable forest plan to be suitable for grazing.

Soil

d. Livestock shall not cause, contribute to, or accelerate noticeable soil movement, such as pedestaling, rills, gullies, scouring, sheet erosion, sedimentation or dunes.

e. Livestock shall not increase the existing rate of soil loss or retard the rate of soil recovery that would be expected in the absence of livestock.

f. Livestock shall not cause physical displacement of historic artifacts or otherwise cause loss of the information value of such artifacts by, among other things, disturbing the soil in or near historic sites.

Vegetation

g. Livestock shall not introduce or spread non-indigenous plants.

h. When conducted for the purpose of benefiting livestock, large-scale environmental manipulation, such as chaining of pinon-juniper,65 treatment of brush with herbicides, or conversion of indigenous plant communities shall be prohibited.

i. Livestock shall not reduce herbaceous plant cover and litter to such an extent that low-intensity fire is significantly suppressed or to such an extent that understory competition for water and nutrients significantly favors establishment of fire-intolerant woody species.66

Wildlife

j. Livestock shall not present a risk of disease transmission to indigenous wildlife (e.g., bighorn sheep); nor render an identified wildlife reintroduction site unsuitable for wildlife reintroduction (e.g., beaver and bighorn sheep).

k. Livestock shall not interfere with the maintenance of well-distributed, viable wildlife populations via social displacement, reduction in cover, or competition for food. l. Livestock shall not alter normal relationships between predators and prey (e.g., coyote and waterfowl); parasites and hosts (e.g., cowbirds and neotropical migratory songbirds); specific pollinators and dependent plants; or specific dispersal mechanisms and dependent indigenous organisms.

m. Livestock shall not alter habitat to such an extent that the geographic range of wildlife species is altered.

n. Lethal control, for the benefit of livestock, of indigenous predators (e.g., coyote and cougar), and competing indigenous herbivores (e.g., rodents and grasshoppers) shall be prohibited.

o. Livestock, in combination with existing populations or planned reintroductions of beaver, shall not prevent or retard the attainment of a fully-functioning stream system, including healthy and diverse woody riparian vegetation component.

Economics

p. Before livestock grazing is authorized, the deciding officer must prepare a comparative economic analysis which displays the market and non-market costs and benefits to society over time "with" grazing and "without" grazing.

q. Consistent with the principle of multiple use, the deciding officer must thoroughly consider market and non-market costs and benefits to determine whether the needs of the American people are best served with grazing or without grazing, based not on the greatest dollar return or the greatest unit output.

r. The analysis shall consider and disclose the value of alternative uses forgone when an area is grazed by domestic livestock compared to when an area is not grazed.

s. Consider and disclose the economic impact of grazing from several perspectives: federal treasury, permittees, agency budget, county revenues, recreationists.

t. The anticipated costs of administering livestock grazing and the costs of livestock-related investments such as fences and water tanks necessary to protect environmental quality shall be disclosed. In consideration of livestock management limitations, the relative risk of environmental harm with and without grazing shall be disclosed.

4. Monitoring

a. Ecosystem components, structures, processes, and functions shall be measured on a regular basis to evaluate attainment (or lack of attainment) of Desired Ecosystem Outcomes.

b. If monitoring cannot be conducted, for any reason including lack of funding, in sufficient detail and frequency to inform management and the interested public about the potential impacts of grazing, then livestock shall be removed from the area until monitoring shows significant progress toward attainment of Desired Ecosystem Outcomes.

c. Utilization standards shall be established in terms of stubble height, percent of leaders browsed, and percent of stream banks disturbed. Livestock utilization on suitable lands shall be monitored and necessary adjustments made to maintain suitability by promptly removing livestock when utilization limits are reached.

/footnotes/

56 Keep in mind that the desired ecosystem outcomes described in this appendix are not inclusive of all ecosystem values. They have been developed with livestock grazing in mind. For instance, although old-growth habitat values will be an important issue in the overall regional plan, they may not be fully represented in this paper because there is only limited association between livestock grazing and old-growth habitat characteristics.

57 The qualifiers "wide distribution" and "site potential" apply to all the of the attainment goals listed. "Wide distribution" means both spatial (e.g., distribution of plants across a site) and temporal (e.g., photosynthetic activity occurs throughout the period suitable for plant growth). "Site potential" refers to conditions which would be present in the absence of human caused disturbances (e.g., livestock grazing), or human caused suppression of natural disturbances (e.g., fire). Site potential is not "pristine" or steady-state climax, but rather the dynamic mosaic of conditions which would be expected near the mean within the range of natural variability for a given set of climatic and landform conditions.

58 Outcomes a. through g. are indicators of rangeland health adapted from National Research Council, Committee on Rangeland Classification. 1994. Rangeland Health: New Methods to Classify, Inventory, and Monitor Rangelands, National Academy Press. Note: the Committee on Rangeland Classification included Jack Ward Thomas-- then a USDA research scientist, now the Chief of the Forest Service.

59 The regulations require that the Forest Service consider suitability under an "assumed set of management practices and at a given level of management intensity." 36 CFR § 219.3. The inclusion of an assumed "viable livestock operation" is intended to exclude from the suitable land base lands that could only support a small number of livestock. Granting a permit for such small numbers would not make sense administratively for the Forest Service nor economically for the livestock operator. This standard also invokes economic criteria as required by 36 CFR § 219.3. This analysis is much like the validity examinations done on mining claims. The government does not want to support potentially damaging activities on the public lands that do not meet a simple test of profitability. The public interest is not served by a policy that would use the National Forests to support small non-commercial livestock operations, e.g. hobby farms.

60 The clause "prevent or retard attainment of... " is derived from the standards and guidelines for attaining Aquatic Conservation Strategy objectives on federal lands west of the Cascades. See USDA/FS and USDI/BLM, Record of Decision and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl, April 1994 at pages B-11 and C-33. This approach will also likely be used in the "PACFISH" aquatic conservation strategy. See October 11, 1994 consultation letter from Gray Reynolds (USFS) and Al Wright (BLM) to Rolland Schmitten (NOAA/NMFS) concerning the joint Environmental Assessment for the Implementation of Interim Strategies for Managing Anadromous-Fish Producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California, March 1994. This "prevent or retard" standard is becoming a standard approach to achieve ecosystem-based desired future conditions. Where proper ecosystem processes are lacking on public lands, private livestock use must not be permitted to prevent or retard the ability of natural recovery mechanisms to achieve healthy conditions.

61 According to some Forest Service professionals, "no grazing system has been devised for assuring proper use of small riparian meadows with extensive upland range. In addition, the most recent information on grazing uplands suggests that although conventional grazing systems have great intuitive appeal, they are less effective at maintaining ecological quality and livestock production than previously thought." Clary, W.P., and B.F. Webster, Managing Grazing of Riparian Areas in the Intermountain Region, USDA Forest Service, Intermountain Research Station, GTR INT-263, May 1989, page 1. In such cases, effective management of the whole area may be rendered infeasible due to prohibitive administrative costs such as riding, herding, fencing, and monitoring, or due to conflicts with other resources such as recreation, wildlife and fish.

62 36 CFR § 219.20.

63 36 CFR § 219.27(a)(6).

64 16 USC §1536(a).

65 See A.J. Belsky, Viewpoint on Western Juniper Expansion: Is it a Threat to Arid Northwestern Ecosystems?, Journal of Range Management, in press.

66 Belsky, A.J., letter to EEMP Project Leader Jeff Blackwood, September 23, 1994. This letter cites numerous well-respected range scientists whose studies contradict the suggestions of the draft issue paper, "Paleoecological Relationships..."

Heiken D., 1995. RIGHT PLACE -- WRONG ANIMAL: Determining Grazing Suitability Based on Desired Ecosystem Outcomes for the Interior Columbia River Basin. Association of Forest Service Employees for Environmental Ethics. May 1995. https://www.dropbox.com/s/ucw50hhs8xsiz2k/AFSEEE%20Grazing%20Suitability%20Report.doc?dl=0 .

For a critique of arguments often used to promote livestock grazing on public lands see: Hudak & Wuerthner 2013. Public Lands Don't Need Livestock Grazing! Issued by the Sierra Club Grazing Core Team, Celebrating the Introduction of the Rural Economic Vitalization Act (H.R. 2201, 113th Congress) June 12, 2013. http://www.sierraclub.org/grazing/references-061213.pdf

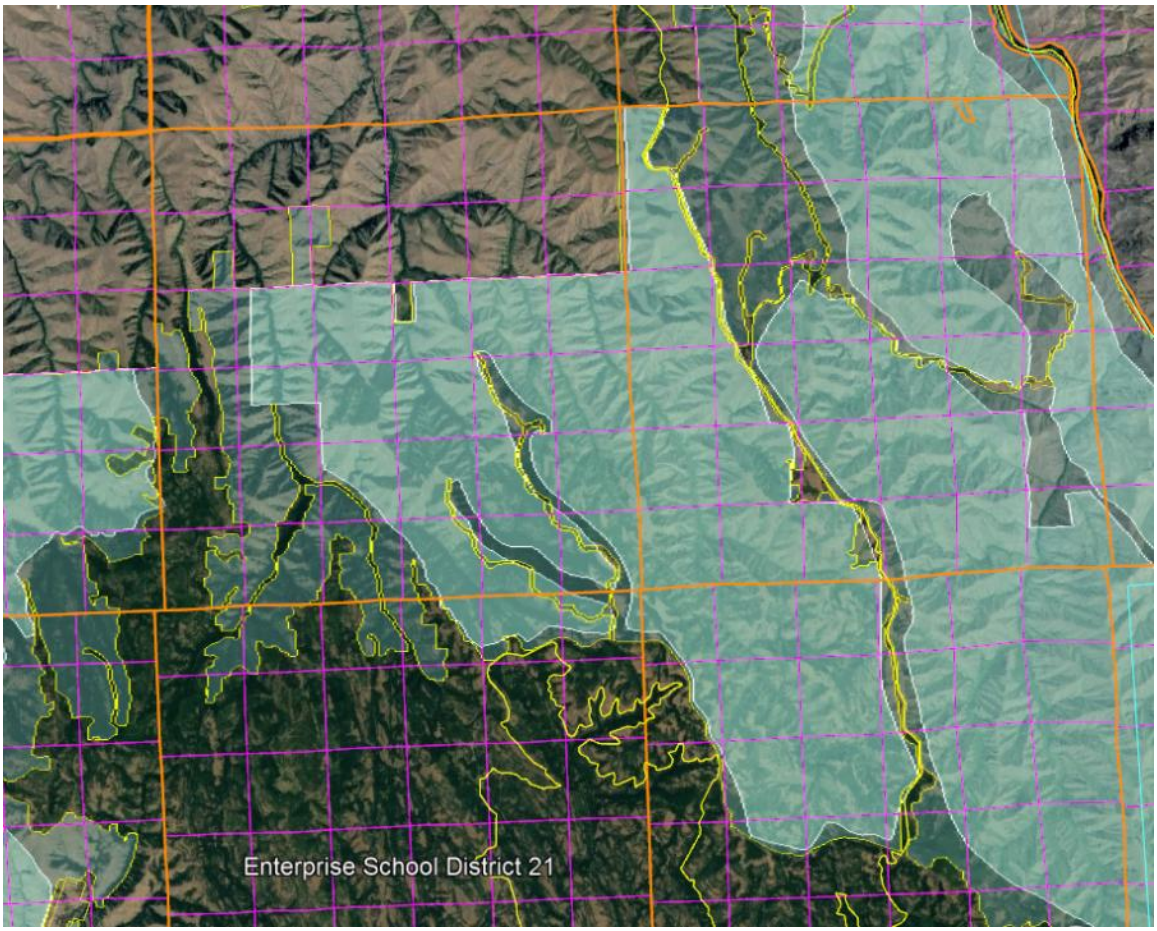
Each substantive issue discussed in these comments should be (i) incorporated into the purpose and need for the project, (ii) incorporated into a NEPA alternative, (iii) carefully analyzed as part of the effects analysis, and (iv) considered for mitigation.

Note: If any of these web links in this document are dead, they may be resurrected using the Wayback Machine at Archive.org. http://wayback.archive.org/web/

Sincerely,

Doug Heiken
dh@oregonwild.org

Attached: Map of roadless and unroaded areas. Light blue polygons are inventoried roadless area. Dark blue polygons are uninventoried roadless area.


Enterprise School District 21